NOVA SCOTIA

Health Research FOUNDATION

Annual Report 2000 - 2001

Building A Broad-Based Health Research Community

Health Outcome

Health Services

Medical

Health Public Policy

2007-04799/

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A Word of Thanks

The NSHRF would like to express its deep-felt appreciation to Dr. John Ruedy, Chair of the Interim Merit Review Committee, who spent many hours setting up the competition parameters and helping the Foundation in its developmental phase. In this capacity, John lead a panel of 12 in reviewing the 116 applications we received for our first grant competition in May 2000. His willingness to take on such a major responsibility in addition to his role as Vice President of Academic Affairs for the Capital District Health Authority spoke to his commitment to fostering health research in Nova Scotia. Thank you, John, for your wisdom, your expertise, and your time.

In Appreciation

Interim Board of Directors January – October 2000

Dr. Thomas Ward, Deputy Minister of Health – *Chair*

Mr. Ed Cramm, Deputy Minister of Community Services – *Vice Chair*

Dr. Susan Clark, Nova Scotia Council on Higher Education

Message from the Chair

Fiscal 2000 was a formative year for the Nova Scotia Health Research Foundation. We laid a foundation from which to help build a dynamic, collaborative and integrated health research community. In this report, you will read about the 55 research grants that we awarded during the year. These were our first grants, and the projects they supported are a testament to the diversity and depth of research being conducted right now — and right here.

From a structural perspective, fiscal 2000 was a milestone for the NSHRF. We formed our first permanent Board of Directors, hired our first executive director and staff, and received our first annual funding from the Nova Scotia Department of Health. To the Board of Directors, it was immediately clear that we faced a significant challenge last year: the need to develop a solid set of policies that would guide the organization into the years ahead. Work continues in this area, but I am pleased to report that we have made great progress in establishing a strong policy foundation.

Our roots go back to 1996 when the Nova Scotia Health Research Task Force was established by the provincial government. In its 40-page report, the Task Force noted that health research in Nova Scotia was "severely disadvantaged." The authors found that "significant pockets of research excellence" existed, but the province's "capacity to compete nationally and to build a strong support system for decision-making" was limited by a lack of funding and by the fact that there was "no coordinated mechanism to support health research."

The Task Force recommended the establishment of a Foundation to assist, collaborate with, and fund individuals and organizations conducting health research in the province. In December 1998, The Health Research Foundation Act (Bill 22) received Royal Assent.

Once the Act was proclaimed, the NSHRF moved into operation under the direction of an Interim Board. I would like to extend to those individuals our appreciation and indebtedness for their hard work and dedication during this critical time. In particular, thanks go to Dr. John Ruedy, a guiding force during this developmental phase.

The provincial government appointed the first permanent Board of Directors as 2000 came to a close. Our 12 members, who hail from various regions of the province, reflect the Foundation's dedication to health research in the broadest possible sense. These board members have already been working for many months. However, I would like to take this opportunity to formally welcome them to the NSHRF and to thank them for their contributions.

In August, our first executive director, Krista Connell, was hired to provide the daily, ongoing management and vision the NSHRF requires to be a leader in health research. We could not have found a more able executive director. Working closely with Krista from the outset was Colleen Clattenburg, our administrative assistant. I thank them for making it possible for the organization to move effectively toward its goals. In particular, I would like to acknowledge the work Krista has done in building relationships within the research community across Nova Scotia.

In closing, I would like to express my personal enthusiasm for the future of the NSHRF. We have a vital role to play in health research in Nova Scotia, and we are building the foundation required to fulfill that role. I am honoured to have served as Chair during this, our most formative, year and I look forward to being a part of the future of the Nova Scotia Health Research Foundation.

Hugh Gillis
Chair

Message from the Executive Director

This fiscal year has proven to be a gratifying and invigorating 12 months for the Nova Scotia Health Research Foundation. Our first competition was held in the spring of 2000 when an impressive 55 operating grants and personnel awards were announced — for a total of $4.3 million in all. For the first time, health researchers in Nova Scotia had accessed research funding through a provincially supported foundation. We were well on our way!

From a personal point of view, fiscal 2000 was a highly rewarding year. I joined the Foundation in August and immediately embarked on the pleasant task of getting to know the members of the health research community here in Nova Scotia and in other parts of Canada as well. This proved to be an informative — and inspiring — experience. I am pleased to report that many partnerships have been formed as a result that will help to enhance health research in this province and beyond.

During this — our first full year of operation — we started building a strong foundation on which future initiatives and endeavours will grow. That meant looking at what we had already done and how it could be strengthened. We surveyed researchers who had applied to our first competition and also individuals who had served on the Interim Merit Review Committee. We wanted to determine their needs and to gather their feedback on our grant-application process. Based on the responses we received, we were able to make improvements in time for our second competition call, which went out in February.

Through our discussions with researchers and other interested parties, it became apparent that a common understanding of the current state and challenges of health research in Nova Scotia was required. We contracted a consultant to conduct key-informant interviews, as well as synthesize other relevant information. This resulted in a comprehensive document, "A Critical Look at Health Research in Nova Scotia," which will be widely circulated as part of a broader consultation process on future directions and priorities for the NSHRF.

Another highlight of the year came in January 2001 when we held our first workshop for members of Nova Scotia's health research community. This workshop, co-sponsored with the Maritime Centre of Excellence for Women's Health, brought together participants from across the province. It focused on the need for a more collaborative research approach and was such a success that it has grown into an annual event — a cornerstone of the Capacity Building Program you will read about in this report.

I would also like to take this opportunity to express my thanks to the people who made up our Interim Board of Directors: Dr. Tom Ward, who served as Chair; Mr. Ed Cramm and Dr. Susan Clark. These hardworking individuals served the Foundation from the day it became operational in January 2000 until October of that year, when our first permanent Board of Directors was announced by the provincial government. We are indebted to their leadership.

In closing, I am delighted with the progress that we have made during this, our first fiscal year of operation. We are grateful for the support and response we received from the health research community, within Nova Scotia and nationally. It has been helpful in positioning us to meet new challenges and, we hope, to achieve great things.

Looking ahead, we have much work before us. The coming year will see us talking and planning with our stakeholders and partners near and far, as we work together to build a vibrant, dynamic health research community that is second to none.

Krista Connell
Executive Director

Highlights of the Fiscal Year

Fiscal 2000 was a busy and productive year. Here's some of what we accomplished:

Health Minister Jamie Muir

- Awarded $4.3 million in operating grants and personnel support grants to 55 individuals and organizations to conduct health research throughout the province. In this, our first-ever awarding of grants, the NSHRF fulfilled its obligation to support research in four critical areas: health services, health outcomes, health policy and medical research. The 55 grant recipients (out of 116 applicants) represent various regions of Nova Scotia and are working in fields including cancer and cardiac care, mental health, genetics and pediatrics, to name just a few.
- Developed a Matching Grants Program to provide additional research support during the fiscal year. The program made matching funds available for projects in two categories: Chairs and Professorships that had been approved by the Canadian Health Services Research Foundation and research proposals co-funded by the Canadian Foundation for Innovation, the Canadian Health Services Research Fund (CHSRF), and the Canadian Institutes of Health Research (CIHR). Four grants were awarded under the CHSRF program, three of which focused on nursing management and organization and the fourth on regional health authorities. The total awarded by the NSHRF was just more than $100,000. We also contributed $500,000 to the Regional Partnership Program of CIHR.
- Sponsored an interactive workshop, "Capacity Building for Collaborative Health Research in Nova Scotia," with the Maritime Centre of Excellence for Women's Health. The one-day event brought together more than 85 participants from across the province, representing health and community organizations, universities, hospitals, and rural communities. The workshop — itself an example of collaboration — focused on the growing need for a collaborative research approach.
- Designed a comprehensive Communications Plan to generate awareness about our mandate, promote partnerships, encourage dialogue, and generally to help the NSHRF — a relative newcomer to the research community — make itself better known. The importance of communication to the NSHRF is reflected in our regulations: five percent of the overall budget is designated for "increasing the public knowledge and awareness of the Foundation and communicating research findings."
- Laid the groundwork for a Capacity Building Program that will be launched in the next fiscal year. The program will provide support and encouragement in the form of grants — ranging from $1,000 to $20,000 — for projects in early stages of development, for students, and for researchers starting out in their careers. Specifically, the grants will fall into four categories: Student Support, Proposal Development, Research Skills, and Pre-research Activity. They will, for example, enable teams and individuals to attend conferences, develop proposals, and gain access to mentorship services. Applications will be accepted at any time of year.
- Prepared a draft report, "A Critical Look at Health Research in Nova Scotia," that provided an overview of the breadth and diversity of health research being conducted in the province. It identifies areas where research is strong and other areas where it needs to be bolstered, and provides insight into the issues and challenges the health research community faces. The report was distributed to NSHRF stakeholders for feedback; their comments will form the basis of a follow-up document to be issued in the new fiscal year.
- Began preparation of "Health-Related Research: Provincial Support," a report that provides a high-level description of the nature and type of provincial support available for health research across Canada. Most provinces have some type of arms-length foundation, council, or research fund in place, as Nova Scotia does now with the NSHRF. This report will provide a description and a brief financial profile of each of these organizations. It will also outline their objectives and the nature of the programs they support.

- Sought — and received — feedback from last year's peer review process. Such feedback is invaluable in helping us to modify and enhance our program to meet the needs of applicants and reviewers. This is but the beginning. Evaluations like this will be ongoing.
- Assisted in the development of an exciting and critical new committee that will bring together representatives from the health research communities throughout the four Atlantic Provinces. Such collaboration is the foundation for long-term growth and development of health research in the region. The inaugural meeting is planned for fall 2001. The NSHRF will co-chair the first meeting along with our counterpart in PEI.

Our congratulations to Dr. Ingrid Sketris

who was named as Chair of Health Services Research focusing on Drug Use Management Strategies and Policies by the Canadian Health Services Research Foundation (CHSRF) in June 2000. Co-sponsored by the Canadian Institutes for Health Research (CIHR) and by the NSHRF as regional co-sponsor, the award is valued at $1.1 million for three years and is renewable for a further seven years. It is one of only 12 such Chairs across Canada and the only one in the Atlantic region.

The award will support research in areas such as the impact of co-payments, premiums and deductibles on drug use and health outcomes in pharmacare programs, innovative approaches to managing provincial and health organization drug formularies, and optimal drug-therapy practices.

The uniqueness of the CHSRF/CIHR Chair arises from its emphasis on: the education of graduate students in applied health research; the mentoring of junior or new-to-discipline faculty members; drug-use management and policy residency for graduate students in government departments and health organizations; linkages and exchanges across sectors and organizations; and interdisciplinary collaboration aimed at the uptake of research results by health policy and program decision-makers.

Ingrid is a Professor of the College of Pharmacy and School of Health Services Administration, and an Associate Professor of the Department of Community Health and Epidemiology at Dalhousie University.

Under the direction of a board chaired by Dr. Lynn McIntyre, Dalhousie's Dean of Health Professions, Ingrid created a strategic plan for her Chair. The planning process began with a round of focus groups involving Dalhousie faculty, staff and graduate students, and culminated in a workshop in January 2001, which was attended by representatives from the academic, health organizational, private and government sectors.

This initial workshop, on a smaller scale, and the focus of the CHSRF/CIHR Chair program, on a larger scale, are in keeping with the overall goals of the NSHRF. These include the fostering of training and mentoring opportunities, the building of linkages and exchanges within the health research community, and the move toward an increasingly collaborative research approach.

Health-Outcome Research

Novel Outcome Measure Project for People with Alzheimer Disease

Principal Investigator: Kenneth Rockwood
Geriatric Medicine Research Unit
Queen Elizabeth II Health Sciences Centre

How much help is there for Alzheimer's patients and their loved ones? How well do currently available medical treatments work? Dr. Kenneth Rockwood and his colleagues at the QEII are conducting research to uncover answers to these questions.

"Treating Alzheimer's is such a new phenomenon," says Ken. "At present, we have no firmly established patterns of treatment response." The challenge, he notes, is to develop a new instrument of measurement — one that will be easy to use and responsive to clinically meaningful change.

"The standard neuropsychologic instruments test specific areas of cognitive function under controlled conditions," Ken explains. "This isn't adequate for measuring patients' improvement or deterioration in the context that really matters — their ability to function in their own lives." Other instruments of measurement include Goal Attainment Scaling (GAS) and Defined Target Symptoms (DTS), which are more effective in bringing the patients' and caregivers' experience of Alzheimer's to the centre of the tracking process. However, both instruments are too complex for practical use.

"When designing an instrument to be used in a clinical setting," says Ken, "you have to remember that the clinician is not merely gathering data but is treating a patient and that treating the patient comes first. How many different forms does the interviewer have to deal with? Are they easy to fill out? Is there adequate space to record data in a hasty scrawl?" Overall, he concludes, "The easier the forms are to use, the better the data recorded is likely to be. This could be said of any research instrument, but it is particularly important when the instrument is to be used in an applied setting."

The goal of the Novel Outcome Measure Project is to develop a new, more effective and functional instrument of measurement for treated Alzheimer Disease. One year into the project, the process is well underway. The research team began by reviewing existing studies on the three instruments that are currently in use at the QEII — GAS, DTS and one other, the Visual Analogue Scales (VAS).

"Several strengths of the current instruments will be retained in the Novel Outcome Measure," Ken explains. However, the new measure is being designed specifically to rate treatment response against current knowledge about the course of untreated Alzheimer Disease. As a result, it is easy to understand and use and much of the recording can be done by placing a mark on a simple scale.

Unlike some of the existing instruments, the Novel Outcome Measure focuses on what is happening now rather than speculating about what might happen in the future. "We believe this shift in focus may make for better tracking of subtle changes," says Ken. "Also, patients and caregivers will be spared the anxiety of trying to project possible future outcomes."

The Novel Outcome Measure, complete with an instruction manual, will be presented to an expert panel in the future. The results of this consultation will be used to refine both the measure and the manual. The measure will then be piloted.

Health-Services Research

A Self-Referral Continence Centre: A Study of Health Care Access and Costs

Principal Investigator: Scott A. Farrell
Department of Obstetrics and Gynaecology
IWK Health Centre

"The word incontinence is a barrier in two contradictory ways," says Dr. Scott Farrell. "On the one hand, there is a lack of recognition of what it means. On the other hand, people are afraid to expose themselves by using it as a label." People who need information about urinary incontinence often avoid workshops and may even hesitate to talk to their family doctor. Now they can get a helping hand from a new self-referral continence centre operating out of the IWK Health Centre's urogynaecology clinic.

Scott, who heads the Health Centre's Division of Urogynaecology, established the self-referral as part of a study funded by the NSHRF. The study is designed to compare the cost-effectiveness and patient satisfaction with two models of continence care delivery: the traditional medical model and the new self-referral model. The centre began enrolling patients in January 2001 after placing newspaper advertisements and spreading the word out through community agencies. By April, 104 patients had been recruited. Twelve of them were medical model patients and the remaining 92 were self-referred. The age of the patients ranges from 20 to 80 years, although incontinence is more often associated with aging. The severity of their symptoms extends from mild to severe.

The underlying purpose of the centre is to test a model of continence-care delivery, which includes a team approach. Scott describes it as one that better utilizes the skills of the various members of the health care team. The first step is an assessment by a continence advisor with input from nurses and physicians. As of April 2001, 13 of the centre's self-referral patients had required referral to the urogynaecology nurses or to one of the clinic's urogynaecologists. The remaining patients remained under the care of the continence counsellor and undertook conservative treatment strategies for their urinary incontinence. In other words, they were managing their own incontinence problems through self-care techniques, with the guidance and support of a one-to-one counsellor, and with no need for drug therapy or other invasive medical interventions.

Four patients have finished their treatment and completed a questionnaire. They gave the centre high marks. "None of these patients required more involved investigations or treatments requiring the care of a physician," notes Scott. "Therefore, an initial and very early evaluation suggests that our goal of providing effective care and also more cost-effective care is being achieved."

Incontinence is a growing health concern that raises a number of issues. For example, there is an identified need for more information for consumers, especially at an accessible literacy level, and the need for family doctors to understand the problem better. The self-referral centre has a strong interest in professional and public education. Earlier in the fiscal year, at the request of the Canadian Continence Foundation (CCF), the centre worked with the Nova Scotia Centre on Aging at Mount Saint Vincent University to organize a panel discussion about the new guidelines for the delivery of continence care to Canadians.

One of the CCF guidelines is for a tiered structure for continence-care delivery. "This structure," says Scott, "is very similar to the next step in our research objectives." That next step is to establish a satellite continence-care clinic in an outlying community of Nova Scotia.

Medical Research

A Safer Food Supply for the New Millennium

Principal Investigators: Rafael Garduno, Thomas Gill, & Walter Schlech
Department of Microbiology and Immunology, the Canadian Institute of Fisheries Technology and Department of Medicine
Dalhousie University

This research project on food safety has its roots in a tragedy that occurred in the spring of 1981. Mothers and babies at Halifax's Grace Maternity Hospital became sick and some of the babies began to die inexplicably. The cause it was discovered by Dr. Walter Schlech (one of the investigators in this project) was a food-borne bacteria in the coleslaw consumed by the pregnant mothers, as well as other people across the Maritimes, a few of whom also became sick. The source was traced to a cabbage field where the soil had been fertilized with sheep manure contaminated with the bacterium *Listeria monocytogenes* — or Listeria, as it is commonly known.

Twenty years later, Listeria is still a concern for researchers who want to prevent tragedies, such as the one of 1981, from happening again. Dr. Thomas Gill, a member of the research team, explains that Listeria can be found in virtually any type of minimally processed food — be it meat or vegetable. However, the bacteria are usually benign and will not cause a threatening infection when consumed by most healthy individuals.

The problem, notes Tom, is that Listeria can be very hard to control, and some strains have the potential to cause serious disease in an epidemic fashion. "It (Listeria) is resistant to disinfectants, it is resistant to salt," he says, "and it can grow at very low temperatures — at refrigerator temperatures. Most bacteria that cause problems for human beings cannot do this." People in greatest danger from Listeria are those who are already vulnerable — the elderly, pregnant women, and their babies — and they can contract it through food that is either cooked or raw.

How the serious strains of Listeria develop is a mystery — one Drs. Garduno, Schlech and Gill are working to solve. One of the project objectives is to study the organism's virulence — its ability to produce disease. Their research approach is threefold — working with an animal model, a food model, and basic microbiology.

Eight months into the research project, most of the activity has occurred in the basic microbiology field, where interesting preliminary results have been obtained. "The results, to date, are very important to us," says Dr. Rafael Garduno, "because they validate our original working hypothesis." This, he explains, is that Listeria isolates that are highly virulent have a reduced fitness to survive even in food. Results of this nature bode well for the hope that, in the near future, Listeria outbreaks can be more readily controlled.

Like many projects funded by the NSHRF, this food-safety research project helps to build links between Nova Scotia researchers and their colleagues around the world. The three researchers involved in this project were invited to present their preliminary results at the Annual Meeting of the Canadian Society of Microbiologists in Waterloo, Ontario and the XIV International Symposium on Problems of Listeriosis, in Mannheim, Germany.

Health Public-Policy Research

Secondary Care Away from Home

Principal Investigator: Neil Hanlon
School of Health Services Administration
Dalhousie University

How often do patients seek hospital care outside their own region, even when the same level of service is available closer to home? And why do they do so? Dr. Neil Hanlon is looking for the answers to these questions in a two-year research study. "One objective of our research," he says, "is to develop and validate a methodology for estimating the extent to which this occurs. We are also gaining a better understanding of which patients are likely to seek cross-boundary care and for what procedures."

The research involves an analysis of hospital discharge data over a 10-year period. It identifies procedures that are considered "secondary" level — which are those available in hospitals throughout the province — and measures how often patients are crossing regions when they do not need to do so. The hospital discharge data also contains patient information, such as age, sex and postal code, and by putting together these two types of data, researchers can explore whether certain types of patients are more likely to seek care further from home than necessary.

The goal is to contribute to a better understanding of how Nova Scotians use the provincial hospital system and the relative importance of receiving care closer to home. Neil anticipates that, in future, the project will lead to "further research that will look at the issues in more depth, including patient and system implications."

This would include such issues as the referral practices of general practitioners (because of their own preferences and/or their perceptions of the quality of local care); the preferences and perceptions of patients; the active seeking of out-of-area referrals by some specialists; and the desire of patients (e.g. seniors who live alone) to be in a hospital closer to their children or other family members.

The project also has implications for health care planning. According to Neil, "We have identified four policy issues that will be informed by our findings." These are:

- the impact of cross-boundary use (CBU) as an indicator of the performance of regional health authorities;
- decisions about future changes to hospital funding, resource allocation decisions, and physician distribution issues;
- the continued role and importance of maintaining choice for patients and referring physicians; and
- the potential role for — and importance of — "competition" among specialists in future health care policy directions.

At the end of year one, the results, while preliminary, already have interesting implications. "First off," says Neil, "they suggest very wide regional disparities in the likelihood of CBU. In the Northern Health Region, one in four patients seeking secondary-level services travelled further than necessary, primarily to the Central Region. But even in Central Region, five percent sought this type of care in another region."

He notes that the project also has a role in fostering interdisciplinary research and collaboration by bringing researchers from Dalhousie University and the Queen Elizabeth II Health Sciences Centre together with planners and providers in jurisdictions across the province. "Also," adds Neil, "we intend to participate as co-investigators in a comparative study that is being undertaken in other provinces. This will provide opportunities for exchange of ideas, methods and findings with researchers from across the country."

Successful Applicants

Operating Grants

Name	Title of Research	Organization
Martin Alda	*Phenotypic Spectra of Bipolar Disorder and Response to Prophylactic Treatment*	*Dalhousie University*
Thomas Baskett	*Prophylactic Use of Oral Misoprostol in the Third Stage of Labour*	*IWK Health Centre*
Robert Brownstone	*Regulation of Motoneurone Firing Properties*	*QEII Health Sciences Centre*
Leslie Anne Campbell	*The Accuracy of the Child Behavior Checklist as a Screening Instrument Among Children at High Risk for Mental Disorders*	*QEII Health Sciences Centre*
Alan Casson	*Molecular Mechanisms and Lifestyle Risk Factor Interactions in the Pathogenesis of Human Esophageal Adenocarcinoma*	*QEII Health Sciences Centre*
Jafna Cox	*Waiting Your Turn: Assessing the Process and Consequencees of Queuing for Coronary Bypass Surgery in Nova Scotia*	*QEII Health Sciences Centre*
Melanie Dobson	*A Yeast System for Analysis of Sterol Trafficking Defects in Niemann-Pick C Disease*	*Dalhousie University*
Mary Louise Ellerton	*Readiness for Practice in Baccalaureate Nursing Graduates*	*Dalhousie University*
Scott Farrell	*A Self-Referral Continence Centre: A Study of Health Care Access and Costs*	*IWK Health Centre*
Rafael Garduno	*Bacterial Food-Borne Infections - A Safer Food Supply for the New Millenium*	*Dalhousie University*
Donna Gilmour	*RCT Comparing Two Methods of Repairing External Anal Sphincter Lacerations*	*IWK Health Centre*
Stephen Gleich	*Prevention of Depression in At-Risk First Year College Students*	*Colchester Regional Hospital*
Gordon Gubitz	*Prediction of Functional and Cognitive Outcome in Patients Admitted to a Stroke Unit*	*QEII Health Sciences Centre*
Neil Hanlon	*Secondary Care Away From Home: How Much Occurs in Nova Scotia for Specific Procedures and Profiles of its Consumers*	*Dalhousie University*
Gregory Hirsch	*Cytolytic Mechanisms in the Pathogenesis of Allograft Arteriosclerosis*	*QEII Health Sciences Centre*
S. Gabrielle Horne	*A Functional Map of the Remodeled Left Ventricle: The Importance of Septal Mechanics in Systolic Dysfunction*	*QEII Health Sciences Centre*
Alexandra Howlett	*The Hi-Risk Study: Long Term Outcomes in Infants > 1500 gm and >31 Weeks Gestational Age Admitted to the NICU*	*IWK Health Centre*
Orlando Hung	*Pharmacokinetics and Pharmacodynamics of Pulmonary Administration of Liposomal THC*	*QEII Health Sciences Centre*
Lili Kopala	*A Collaboration to Study Health Outcomes in Schizophrenia in Nova Scotia*	*Dalhousie University*
Vladimir Kozousek	*Outcome Analysis of a Pilot Community Population Based Screening Program for Diabetic Retinopathy*	*QEII Health Sciences Centre*
Stanley Kutcher	*Evaluation of Diagnosis of Depression by Primary Care Physicians in Two Clinical Settings*	*Dalhousie University*
Tong-Jun Lin	*Mechanisms and Regulations of Mast Cell Interaction with Cystic Fibrosis-Associated Pseudomonas Aeruginosa*	*Dalhousie University*

Thomas MacRae	*Structural and Functional Analysis of a Small Heat Shock/ -Crystallin Protein: Activity of a Molecular Chaperone During Embryo Development and Physiological Stress*	*Dalhousie University*
Geoffrey Maksym	*Microhealogy of Smooth Muscle Cells: Plasticity of Response*	*Dalhousie University*
Jock Murray	*Nova Scotia Multiple Sclerosis Integrated Database (NS MSID) Update from 1989/90 - 93/94 to 1989/90 - 99/00*	*Dalhousie University*
Marcelo Nicolela	*Studies on the Role of Vasospasm in Glaucoma: New Diagnostic and Treatment Approaches*	*QEII Health Sciences Centre*
Paul Pollak	*Effect of Systematic Monitoring on Cost and Toxicity of Amiodarone Therapy*	*QEII Health Sciences Centre*
Kenneth Rockwood	*A Novel Outcome Measure: Developing a New Outcome Measures for Detection of Disease Progression in Treated Alzheimer's Disease*	*QEII Health Sciences Centre*
Sharon Roscoe	*Effects of Charge and Surface Roughness on Protein Adsorption and Corrosion of Biomaterials*	*Acadia University*
Francois Tremblay	*Intraocular Pressure and Optic Nerve Ischemia in the Etiology of Glaucoma: Animal Models and Clinical Investigations*	*IWK Health Centre*
Lloyd Vett	*Generation of Transgenic "Humanized" Drosophila to Investigate a Therapeutic Approach to Hermansky-Pudlak Syndrome*	*Dalhousie University*
Paul Veugelers	*Health Inequalities in Nova Scotia: Future Developments and Directions for Health Policy*	*Dalhousie University*
Daniel Waschbusch	*Do the Social Cognitive Abilities of Children with ADHD Mediate Their Response to Psychosocial Treatment?*	*Dalhousie University*
David Young	*Fetal Biophysical Profile and Newborn Acidosis*	*Dalhousie University*

Successful Applicants

Personnel Support

Name	Title of Research	Program
Rakesh Christopher Arora	*Intrinsic Cardiac Neurons in Human Heart Disease*	Graduate Studentship
James Patrick Bonaparte	*A Comparison of Conventional and Proactive Wheelchair Wheelie Balance Training*	Graduate Studentship
Melanie Louise DiQuinzio	*The Effectiveness of Screening for Breast Cancer in Nova Scotia*	Graduate Studentship
Kerry Goralski	*Effects of Inflammation and Infection on Cytochrome P450 and Drug Metabolism in the CNS*	Postdoctoral Fellowship
Akshai Iyengar	*Identifying the Guanosine Triphosphate Binding Site of Cytidine Triphosphate Synthetase*	Graduate Studentship
Jackalina Matilda Van Kampen	*Induction of Endogenous Stem Cells Into Viable Dopaminergic Neurons in a Rat Model of Parkinson's Disease*	Postdoctoral Fellowship
Charles Norman 'Scott' Landry	*Functional Assessment of Knee Osteoarthritis Patients: Non-Invasive Treatments*	Graduate Studentship
Colleen Anne Liiva	*Within Group Variation in the Ability of Early School-Age Children with Specific Language Impairment (SLI) to Access an Ongoing Interaction*	Graduate Studentship
Sara Ann Llewellyn	*Translation Regulation of Cyclin Gene Expression*	Graduate Studentship
Frank Petrie MacMaster	*Differential Role of Glutamate in Anxiety: Bipolar Disorder & Obsessive-Compulsive Disorder*	Graduate Studentship
Raja Abdel-Majid	*A Yeast System for Analysis of Sterol Trafficking Defects in Niemann-Pick C Disease*	Postdoctoral Fellowship
Michelle L. Mujoomdar	*Adenosine Within Colorectal Tumours Enhances Cancer Cell Growth*	Graduate Studentship
Kelly Alexandra Nicol	*Equality of Access to the Prevention of Reproductive Cancers in Canadian Women: The Relationship of Socioeconomic Status with the Use of Clinical Breast Exams, Mammography, and Cervical Cancer Screening*	Graduate Studentship
Sheri Lynn Price	*Women's Experiences with Cardiac Disease Following Diagnosis by Ambulatory Cardiac Catheterization*	Graduate Studentship
Anthony George Russell	*Identification and Role of Small Nucleolar RNAs in the Formation of Ribosomes in Eukaryotic Cells*	Postdoctoral Fellowship
Robin Smith	*Role of the Cardiac Voltage-Sensitive Release Mechanism in Heart Failure*	Graduate Studentship
Jennifer Anne Stamp	*Comparison of Immediate Early Gene Expression After Chronic Psychotropic Drug Administration: Modulation by Adrenal Stress*	Postdoctoral Fellowship
Nicole Welch	*Regulation of Retinal Muller Cells Function*	Graduate Studentship
Hong Zhang	*50% Postdoctoral Fellowship to Match with MRC Partnership*	Postdoctoral Fellowship

A Look Ahead

Fiscal 2000 was a milestone year for the Nova Scotia Health Research Foundation. We laid the groundwork for the ongoing, effective operation of the organization, began building important, sustained relationships with our partners in the health research community, and fostered health research in the broadest sense. Now, we are ready to build on that foundation. Here's what we plan to do in fiscal 2001:

- Hold our second annual awards competition, in which more than $4 million will be awarded to health researchers in Nova Scotia. We will also have additional funds this year to support health research in the province. In fiscal 2000, we recorded a surplus from the annual provincial government grant that supports the Foundation. It was created — as projected — because we were not fully staffed, nor in full operation, until late in the fiscal year. In the upcoming year, it will be designated for health research applicants.

- Conduct a week of workshops in the fall of 2001, including a workshop on grant-writing skills for prospective applicants. The key to getting grant money is being able to show funders that a project is worthy of financial support. At the NSHRF, we firmly believe our role goes beyond handing out awards to helping researchers compete successfully on a national and international scale.

- Launch a Capacity Building Program to work toward the creation of a vibrant and productive research environment in Nova Scotia through initiatives that support and encourage research, competency, interest and enhanced activity.

- Sponsor a targeted research workshop to further assist researchers and partners. This will be an annual event that will serve as a cornerstone of our Capacity Building Program.

- Continue to actively participate in and support a pan-Atlantic panel on health research, thereby, facilitating dialogue, cooperation and partnerships among health research bodies promoting and supporting research on a provincial basis in the four Atlantic Provinces.

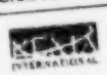
- Prepare a response document to the report "A Critical Look at Health Research in Nova Scotia" and distribute it to our stakeholders and partners.

- Complete and issue the final copy of our report "Health — Related Research: Provincial Support," a cross-Canada profile outlining the nature and degree of provincial support available to health researchers across the country.

- Continue to develop the strengths we have built during our first full year of operation. We will keep on striking a balance between an increasing sense of focus and a broad-based vision as we move into the years ahead.

Auditor's Report

LYLE TILLEY DAVIDSON
Chartered Accountants



AUDITOR'S REPORT

To the Directors of the **Nova Scotia Health Research Foundation**

We have audited the balance sheet of the **Nova Scotia Health Research Foundation** as at March 31, 2001 and the statements of the Foundation's equity and operating support and expenses for the year then ended. These financial statements are the responsibility of the Foundation's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Foundation as at March 31, 2001 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

Lyle Tilley Davidson

CHARTERED ACCOUNTANTS

June 12, 2001

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A MEMBER OF NEXIA INTERNATIONAL

Nova Scotia Health Research Foundation

Balance Sheet

as at March 31, 2001

	2001	2000
ASSETS		
CURRENT ASSETS		
Cash		
- administration	$ 8,799	$ 30,943
- restricted	-	183,371
Short term investments		
- administration	545,773	344,389
- restricted	1,678,577	1,951,539
Accounts receivable - administration	9,466	227
Prepaids	45,458	-
	2,288,073	2,510,469
CAPITAL ASSETS *(notes 2 and 5)*	27,777	-
	$ 2,315,850	$ 2,510,469
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities		
- administration	104,979	2,453
- restricted	1,821,876	-
	$ 1,926,855	$ 2,453
FOUNDATION'S EQUITY		
FOUNDATION'S EQUITY		
Unrestricted *(note 4a)*	532,294	373,106
Restricted *(note 4b)*	(143,299)	2,134,910
	388,995	2,508,016
	$ 2,315,850	$ 2,510,469

Signed on behalf of the Board

Director

Director

Nova Scotia Health Research Foundation

Statement of Foundation's Equity

for the year end March 31, 2001

	2001	2000
UNRESTRICTED FUND EQUITY		
UNRESTRICTED FUND - BEGINNING OF YEAR	$ 373,106	$ -
Excess of support over expenses	159,188	373,106
UNRESTRICTED FUND - END OF YEAR	$ 532,294	$ 373,106
RESTRICTED FUND EQUITY (DEFICIT)		
RESTRICTED FUND - BEGINNING OF YEAR	$ 2,134,910	$ -
Support for grants	2,125,000	2,125,000
Canadian Health Services grant *(note 8)*	113,378	-
Issuance of grants	(4,601,902)	-
Interest on restricted funds *(note 6)*	85,315	9,910
RESTRICTED FUND - END OF YEAR	$ (143,299)	$ 2,134,910

Statement of Operating Support and Expenses

for the year ending March 31, 2001

	2001	2000
OPERATING SUPPORT		
Grant revenue	$ 375,000	$ 375,000
Interest income	12,680	1,748
	387,680	376,748
OPERATING EXPENSES		
Advertising and promotion	32,436	26
Amortization	3,687	-
Capacity support	22,500	-
Honorarium	21,750	-
Interest and bank charges	359	5
Miscellaneous	6,258	-
Office	31,132	66
Professional fees	24,046	1,451
Salaries, wages and benefits	72,491	-
Telephone	2,710	-
Travel	11,123	2,094
	228,492	3,642
EXCESS OF SUPPORT OVER EXPENSES	$ 159,188	$ 373,106

Nova Scotia Health Research Foundation

Notes to Financial Statements

for the year end March 31, 2001

1. CONTENT OF FINANCIAL STATEMENTS

The Nova Scotia Health Research Foundation, established by the Health Research Foundation Act of the Province of Nova Scotia (Bill No. 22) was given Royal Assent on December 3, 1998 and became effective on January 1, 2000. As stated in the Act the objects of the Foundation are to assist, collaborate with and fund individuals and organizations conducting health research in the Province including the fields of health policy, health promotion and health care and without limiting the generality of the foregoing, assist health-services research, health-outcome research, health public-policy research and medical research.

The accompanying financial statements include only the assets and operations of the Foundation.

2. ACCOUNTING POLICY

Capital assets

Capital assets are recorded at cost, and are amortized using the following annual rates and methods:

Asset	Rate %	Method
Computer equipment	30	Declining balance
Furniture and fixtures	20	Declining balance

Amortization is calculated at one-half of the normal annual rate in the year of acquisition; no amortization is recorded in the year of disposal.

Fund accounting

The Foundation uses the fund accounting method of presenting its assets, liabilities and results of operations. This method recognizes the limitations and restrictions placed on the use of the resources available to the Foundation by classifying all transactions according to their nature.

Financial instruments

The Foundation's financial instruments consist of cash, accounts receivable, short-term investments, and accounts payable. Unless otherwise noted, it is management's opinion that the company is not exposed to significant interest, currency or credit risks arising from these financial instruments. The fair value of these financial instruments approximate their carrying values, unless otherwise noted.

3. DISTRIBUTION OF FUNDING

The annual grant made to the Foundation, which is provided from funds appropriated by the Nova Scotia Legislature, shall be distributed in accordance with the objects of the Foundation as follows:

(a) 40% shall be spent on medical research

(b) 15% shall be spent on health-outcome research

(c) 15% shall be spent on health-services research

(d) 15% shall be spent on health public-policy research

(e) a maximum of 15% may be spent on the administration of the Foundation and 5% of the total amount spent on administration shall be spent on increasing the public knowledge and awareness of the Foundation.

4. FUND ACCOUNTING

(a) Unrestricted Fund

The Unrestricted Fund is used to account for the primary operations of the Foundation, including costs related to administration, operations, and promotion of public awareness of the Foundation. Government grants and other income recorded directly by this fund include only those available for unrestricted operating purposes.

(b) Restricted Fund

The Restricted Fund is used to account for funds received that are designated for the issuance of grants for research including medical, health-outcome, health-services, and public policy research. At the time the approved grants are issued, the expenditures are recorded as a reduction of the fund equity.

5. CAPITAL ASSETS

	2001			2000
	Cost	Accumulated amortization	Net	Net
Computer equipment	$ 10,797	$ 1,620	$ 9,177	$ -
Furniture and fixtures	20,667	2,067	18,600	-
	$ 31,464	$ 3,687	$ 27,777	$ -

6. INTEREST ON RESTRICTED FUND

Since commencement of operations the restricted fund received a support grant from the Province of Nova Scotia, authorized and paid health research grants, and earned interest on the funds invested. These amounts have been distributed to each category as follows:

	Support Grant	Authorized Grants	March 31/00 Interest	Mar 31/ 01 Interest	Over/Under
Medical research	$ 2,000,000	$ 2,501,357	$ 4,663	$ 39,600	$ (457,094)
Health-outcome research	750,000	683,744	1,749	14,850	82,855
Health-services research	750,000	666,048	1,749	14,850	100,551
Health public-policy research	750,000	688,096	1,749	14,850	78,503
Canadian health services	113,378	62,657	-	1,165	51,886
	$ 4,363,378	$ 4,601,902	$ 9,910	$ 85,315	$ (143,299)

7. TAXATION

According to Bill 22, which was given Royal Assent effective January 1, 2000, the Foundation and its property are exempt from taxation imposed by or under the authority of any enactment of the Province of Nova Scotia.

8. CANADIAN HEALTH SERVICES GRANT

The Nova Scotia Department of Health transferred $113,378 to the Foundation during the year. These funds are restricted for the purpose of supporting the Canadian Health Services Research Foundation's Open Grants Competition. During the year $62,657 of grants were disbursed. Interest earned from these funds invested in a Guaranteed Investment certificate amounted to $1,165 during the year. The balance remaining at March 31, 2001 is $51,886.

9. COMPARATIVE FIGURES

Certain of the comparative figures have been reclassified to conform to the 2001 financial statement presentation.

Board of Directors

Hugh A. Gillis, *Chair*

Since 1998, Hugh is the former Academic Vice-President of St. Francis Xavier University in Antigonish, where he was also a member of the university's chemistry department. Hugh received his Ph.D. from the University of Notre Dame in Indiana and his Postdoctoral Fellow from the University of Leeds in England.

Brenda Montgomery, *Vice Chair*

Brenda is the past CEO of the Western Regional Health Board in Clementsport. She received her B.Sc. in nursing from Mount Saint Vincent University and her Masters in Health Services Administration from Dalhousie University, where she is an Honorary Professor in the School of Health Services Administration.

Carol Amaratunga

Carol is the Executive Director with the Maritime Centre of Excellence for Women's Health at Dalhousie University in Halifax. She is also an Associate Professor of Research in the Faculty of Health Professions at Dalhousie. Carol received her Masters Degree in Agricultural Economics and Extension Education at the University of Guelph and her Ph.D. in Educational Theory specializing in adult education at the University of Toronto.

Colleen Elliott

Colleen is a Registered Nurse who specializes in the field of gerontology. She is currently on staff at the Glenview Lodge Nursing Home in Truro. Colleen is a graduate of St. Joseph's Hospital in Toronto. She has also received her certificate in Alzheimer's Disease and Related Dementias. Colleen is past president of the Nova Scotia Division of the Canadian Cancer Society.

Jennifer L. Feron

Jennifer is a member of the corporate development team with Emera Inc. in Halifax. She received a combined law degree and Masters of Health Services Administration from Dalhousie University in Halifax.

John Gainer

John is the Clinical Coordinator of the Eating Disorders Program at the Cape Breton Healthcare Complex, a position he has held since 1994. He is also chair of the Research Ethics Committee. John received his Ph.D. in Clinical Psychology from McGill University in Montreal. He is the author of more than a dozen health research papers.

Thomas Larder

Thomas is the Chair of the Board of Directors of Canadian Dental Services Plans Inc. and President of Endo/Tech in Nova Scotia. He received his DDS from the Faculty of Dentistry at Dalhousie University in Halifax and his Certificate in Endodontics from Tufts University School of Dental Medicine in Boston. The Nova Scotia Dental Association has previously honored Thomas as Volunteer of the Year.

Brian D. MacDougall

Brian is the Vice President of Operations and Support Services at the IWK Health Centre for Children, Women and Families in Halifax. He received his Masters of Health Services Administration from Dalhousie University. Brian is also a Certified Health Executive and a Certified Management Consultant.

Harley G. Marchand

Harley is the Executive Director of the Arthritis Society, Nova Scotia Division. The Division is responsible for the Home Care Physiotherapy Program. Harley received his Bachelor of Business Administration at St. Francis Xavier University in Antigonish. He is currently enrolled in the Certified Management Accounting Program at Saint Mary's University in Halifax.

Cynthia M. Mathieson

Cynthia is the Director of Research and International Liaison Officer with Mount Saint Vincent University in Halifax. She received her Ph.D. in Psychology from the University of Calgary, with a concentration in psychological oncology. Her current research interests include women's health. She has been honoured for her contributions to health research with, among other awards, The Progress Women of Excellence Award in Education and Research.

Donna Meagher-Stewart

Donna is the Associate Director of the Master of Nursing program at Dalhousie University School of Nursing in Halifax. She is currently completing her Ph.D. studies at the University of Toronto. She is an active participant in the health research community and her work has appeared in several journals and books.

Thomas Rathwell

Thomas is a professor and Director of the School of Health Services Administration at Dalhousie University in Halifax. His areas of specialization include health policy and planning, population health, comparative health care systems and public participation. Thomas, who received his Ph.D. from the University of Durham, also served as the Head of the World Health Organization's Collaborating Centre for Health Care Systems Research and Development.

Krista Connell, *Executive Director*

Krista is the first Executive Director of the Nova Scotia Health Research Foundation. In this capacity, she is charged with guiding and developing the organization so that its strategic objectives are met and providing the leadership and direction that will ensure the effective and efficient operation of the Foundation. Prior to joining the NSHRF, Krista was the Manager, Special Services Unit with the Workers' Compensation Board of Nova Scotia. While there, Krista developed the Board's first comprehensive program for injured workers with chronic pain. Krista graduated with a degree in physiotherapy from Dalhousie University and received her Masters of Health Services Administration from the University of Alberta.

Colleen Clattenburg, *Administrative Assistant*

As the Nova Scotia Health Research Foundation's Administrative Assistant, Colleen provides administrative support to the Executive Director and the Board of Directors. She was instrumental in the development of application information for the very first call for funding. Prior to joining the Foundation, Colleen held administrative support positions in the Research Development and Continuing Education Department and the Nursing Research Department at the QEII Health Sciences Centre.

Types of Research Funded

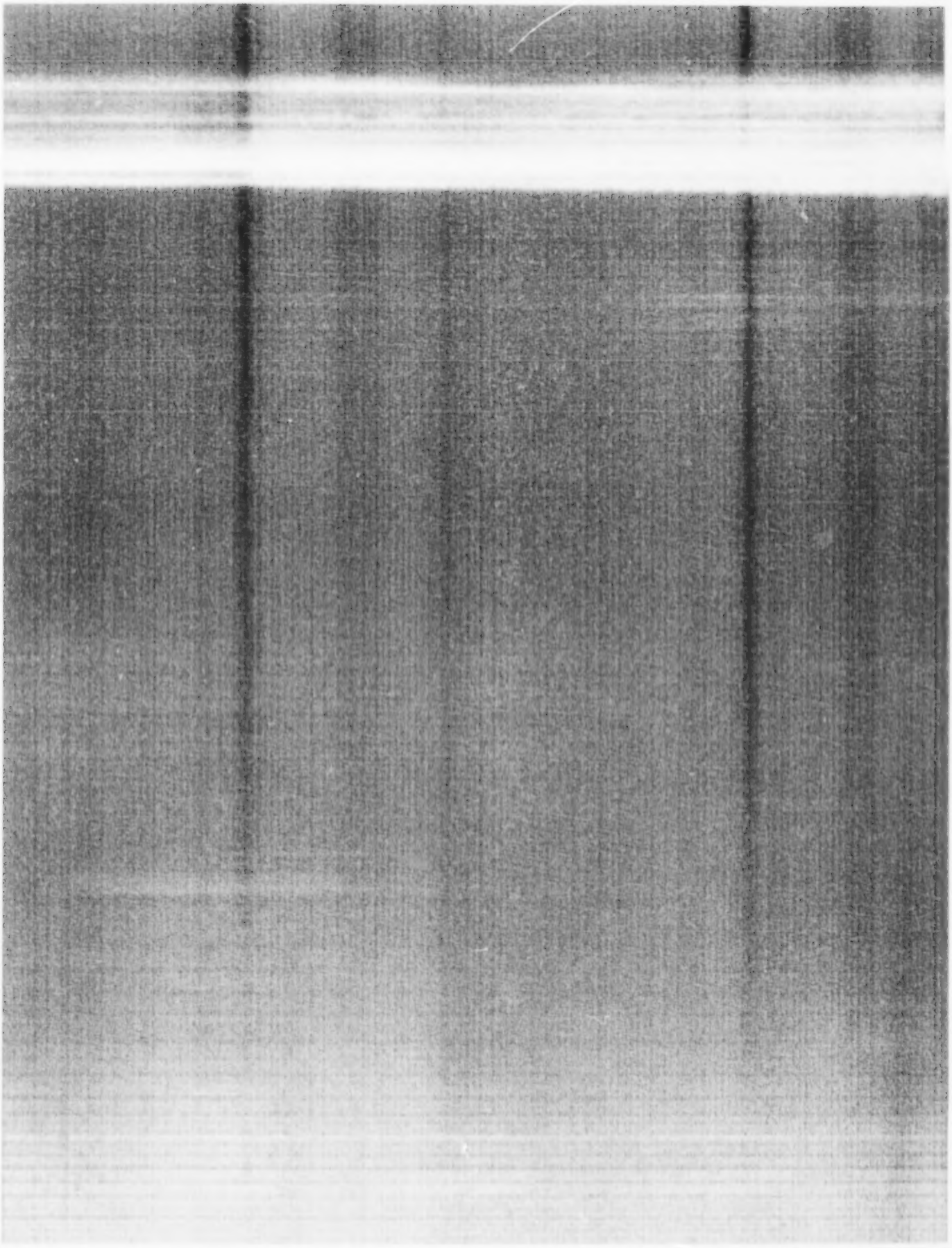
The Nova Scotia Health Research Foundation provides support to individuals and organizations conducting health research in four key areas:

Medical Research, which includes basic scientific and biomedical research as well as clinical and epidemiological investigations.

Health-Outcome Research, which involves research into changes in the health status of populations due to the implementation of health programs.

Health-Services Research, which delves into the efficiency and effectiveness of the management, organization, and delivery of health services.

Health Public-Policy Research, which assesses the impact of social factors, allocation of resources, legal and ethical issues, and the administration, organization, and financing of health care.



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